

What is claimed is:

Sub C1
1. Apparatus for decreasing pressure in a first portion of a vessel of the cardiac structure of a patient comprising a shunt communicating with an area outside said first portion, whereby a volume of blood sufficient to reduce pressure in said first portion is released.

2. The apparatus of claim 1, wherein the first portion comprises the left ventricle and said pressure is the end diastolic pressure in a patient heart, wherein said shunt communicates with the left ventricle, whereby a small volume of blood is released from the left ventricle to reduce the end diastolic pressure.

Sub C1 >
3. The apparatus of claim 2, wherein the shunt comprises a passive check-valve that allows flow when a pressure differential between the left ventricle and another chamber of a heart above a threshold pressure, whereby shunting is prevented during left ventricular systole

4. The apparatus of claim 2, wherein the shunt comprises a passive check-valve that allows flow when a pressure differential between the left ventricle and another chamber of a heart is between a lower threshold and a higher threshold, whereby shunting is prevented during left ventricular systole

Sub C1 >
5. The apparatus of claim 2, wherein the shunt comprises a semi-passive check-valve comprising a valve activated by an external signal.

Sub C1 >
6. The apparatus of claim 5, wherein an intra-corporeal electrical battery generates said signal.

7. The apparatus of claim 5, wherein signal is generated by an externally coupled energy source.

Sub
a¹

8. The apparatus of claim 2, further comprising a pump in fluid communication with the shunt and having an input connected to the left ventricle and an output connected to a volume of lower pressure.

Sub
C¹

9. The apparatus of claim 2, comprising a tubular element having two ends and a tissue affixation element disposed at each of said ends.

10. The apparatus of claim 8, wherein said tubular element is comprised of a biologically inert non-metallic material.

Sub
a¹

11. A method of decreasing pressure in a first portion of a vessel of the cardiac structure of a patient comprising the step of implanting a shunt communicating with an area outside said first portion, whereby a volume of blood sufficient to reduce pressure in said first portion is released.

12. The method of claim 11, wherein the first portion comprises the left ventricle and said pressure is the end diastolic pressure in a patient heart, wherein said shunt communicates with the left ventricle, whereby a small volume of blood is released from the left ventricle to reduce the end diastolic pressure.

Sub
C¹

13. The method of claim 12, further comprising the step of selectively permitting flow when a pressure differential between the left ventricle and another chamber of a heart above a threshold pressure, whereby shunting is prevented during left ventricular systole

14. The method of claim 12, further comprising the step of selectively permitting flow when a pressure differential between the left ventricle and another chamber of a heart is between a lower threshold and a higher threshold, whereby shunting is prevented during left ventricular systole

Sub
a¹

15. The method of claim 12, further comprising the step of actuating a semi-passive check valve by an external signal.

FOUO - CONFIDENTIAL

Sub c'7

16. The method of claim 15, further comprising the step of generating said signal with an intra-corporeal electrical battery.

17. The method of claim 15, further comprising the step of generating said signal with an externally coupled energy source.

Sub a" / 18. The method of claim 12, further comprising the step of activating a pump in fluid communication with the shunt and having an input connected to the left ventricle and an output connected to a volume of lower pressure.

19. The method of claim 12, further comprising the step of implanting said shunt, said implanting step comprising the step of deploying a tubular element having two ends and a tissue affixation element disposed at each of said ends via a catheter.

Sub c'7

20. The method of claim 19, wherein said tissue fixation element is a shape retaining metallic material and further comprising the step of releasing the tissue fixation elements.

TO THE CHAIRMAN